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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/044,235	01/11/2002	Peter J. Black	PA010122	8976
23696	7590	12/16/2004	EXAMINER	
Qualcomm Incorporated Patents Department 5775 Morehouse Drive San Diego, CA 92121-1714			CORRIELUS, JEAN B	
			ART UNIT	PAPER NUMBER
			2637	

DATE MAILED: 12/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/044,235

Applicant(s)

BLACK ET AL.

Examiner

Jean B Corrielus

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 September 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-32, 34-36 and 38-49 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-14, 21-32, 34-36 and 39-49 is/are allowed.
- 6) ☒ Claim(s) 15-17 and 20 is/are rejected.
- 7) ☒ Claim(s) 18, 19 and 38 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 38 depends on canceled claim 37. However claim 38 was previously amended to include all limitations of claim 37. Therefore such dependency is in error and the claim should be amended to remove reference to "of claim 37".

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claim 15 is rejected under 35 U.S.C. 102(b) as being anticipated by Gurantz et al US Patent No. 5,550,869.

Gurantz et al discloses a method and apparatus figs. 6 and 7 comprising the steps of deriving an error metric for each of a plurality of signal instances (I signal and Q signal) using device 150; combining error metrics in circuit block 164 for the plurality of signal instances for each update period to provide a composite error metric for the update period; updating a loop filter 152 based on the composite error metric and deriving the sample timing for the plurality of

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signal instances based on the output of the loop filter 152 see col. 11, lines 24-28.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 16 and 17 rejected under 35 U.S.C. 103(a) as being unpatentable over Gurantz et al US patent No. 5,550,869 in view of Sih et al US Patent No. 6,608,858.

As per claim 16, Gurantz et al discloses every feature of the claimed invention but does not explicitly teach the scaling of each error metric with a respective weight and to combine the scaled signal. In the same field of endeavor, sih et al teaches the scaling of each error metric with a respective weight and to combine the scaled signal see col. 6, lines 20-25. Given that, it would have been obvious to one skill in the art to incorporate such a teaching in Gurantz et al so as to enhance the resolution of the system.

As per claim 17, Sih teaches that the weight is determined based on the quality of the signal instance see col. 6, lines 22-23. Given that fact it would have

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been obvious to one skill in the art to include such a teaching in Gurantz and the reason to do so would have been the same as provided in reference to claim 16.

6. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Gurantz et al.

Gurantz et al discloses every feature of the invention, as applied to claim 15 above, but fails to explicitly teach that an early/late discriminator is used to generate the error signal. However, using an early/late discriminator to generate error signal is old and well established in the art. Given that, it would have been obvious to one skill in the art to incorporate such a device in Gurantz et al in order to enhance the system accuracy.

### ***Response to Arguments***

7. Applicant's arguments, see page 15, filed 9/13/04, with respect to the rejection(s) of claim(s) 15 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made above in view of Gurantz.

8. The rejection of claim 38 under Gurantz is withdrawn as Gurantz does teach explicitly, in combination with the other claimed limitations, the reception of a plurality of signals instances over a plurality of antenna.

9. Applicant's arguments filed 9/13/04 have been fully considered but they are not persuasive. It is alleged that Gurantz only teaches the generation of an error

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metric for one signal instance. However, it is noted at col. 11, lines 29-34, Gurantz teaches the generation of an error metric for the I channel (first signal instance) and an error metric for the Q channel (second signal instance).

***Allowable Subject Matter***

10. Claims 1-14, 21-32, 34-36 and 39-49 are allowed.

11. Claim 38 would be allowable if amended to overcome the objection sets forth above.


12. Claim 18 and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean B Corrielus whose telephone number is 571-272-3020. The examiner can normally be reached on Maxi-Flex.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571-272-3086. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Jean B Cornelius  
Primary Examiner  
Art Unit 2637

12-10-04